

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

On the Commissioner's Own Motion for a Determination of the Adequacy of Warning Devices at Four Grade Crossings of the Wisconsin Central Ltd. Tracks in the Town of Lisbon, Waukesha County

9164-RX-516

FINDINGS OF FACT AND ORDER

On May 29, 2003, the Commissioner of Railroads directed the staff of the Office of the Commissioner of Railroads (OCR) to investigate the adequacy of warning devices under §195.28, Stats., at four grade crossings of the Wisconsin Central Ltd. (WCL) tracks in the Village of Sussex and the Town of Lisbon, Waukesha County. The crossings are:

Roadway	Crossing Number	
Good Hope Road	692 253S / CM 107.79	Village of Sussex
Plain View Road	692 255F / CM 108.80	Town of Lisbon
North Lisbon Road	692 257U / CM 109.80	Town of Lisbon
Colgate Road	692 258B / CM 110.38	Town of Lisbon

Note: This order addresses the adequacy of warning devices only at Good Hope Road – Crossing no. 692 253s.

An OCR investigator inspected the crossings in July 2003 and February 2004. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

Good Hope Road is 24 feet wide with 4-5 foot wide shoulders in the vicinity of the crossing and intersects the railroad tracks at an angle of about 60°. Good Hope Road carried a 2900 ADT in 2001 according to DOT records. This ADT is projected to increase to 6700 according to a traffic study done by the Village's engineering firm. The legal speed limit is 35 mph.

The Wisconsin Central Ltd. operates 30 train movements per day over the crossing at a timetable speed of 60 mph. This rail traffic is also expected to increase to about 36 trains per day within a year.

Approaching sight distances: A motorist traveling at 35 mph requires a safe stopping distance of 270 feet on a level road. The roadway is nearly level east of the crossing, but the westbound approach drops downgrade at 6+%, raising the safe stopping distance to about 360 feet on dry pavement. The crossing is visible from more than 600 feet for westbound traffic and about 400

feet for eastbound traffic. Assuming a train speed of 60 mph, a motorist traveling at 35 mph needs to see a train when it is about 570 feet from the crossing from a point 270-360 feet down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 40 feet in the northwest quadrant, 70 feet in the northeast quadrant, 75 feet in the southwest quadrant and about 1000 feet intermittent in the southeast quadrant. Sight distance is substantially inadequate in three of four quadrants.

Clearing sight distances: With train speeds of 60 mph, a motorist stopped at the tracks needs to see approximately 615 feet down the tracks in order to decide whether to proceed. The driver of a single-unit truck needs 1095 feet and the driver of a school bus needs 1195 feet.

The exposure factor at this crossing is about 87,000. This is projected to increase to about 241,000 in 2020 assuming both the projected ADT of 6700 and an increase in train movements to about 36 per day.

One train-vehicle accident has occurred at this crossing since 1973.

Accidents that do occur here will likely be quite serious if a through train is involved due to their 60 mph speed. Crossings with train speeds of 40+ mph have a disproportionate number of fatalities, according to Federal Railroad Administration (FRA) statistics. FRA records show that, nationally, in 1994 71% of fatalities occurred at crossings with train speeds of 40+ mph, even though only 26% of all crossings had train speeds of 40+ mph.

The Office of the Commissioner of Railroads has received a proposal from Quixote Transportation Safety Company for the provision of a barrier gate system in complete form, but for concrete foundations, and including two appropriately sized spare StopGate Arms and storage cabinet for the sum of \$161,000.00. This proposal is on file and available for inspection at the Office of the Commissioner of Railroads.

The crossing is presently protected with 12-inch incandescent flashing lights, pavement markings, and advance warning signs. The existing warning devices are becoming inadequate, but will remain adequate until warning devices are installed in compliance with this order. The steep grade of the easterly approach to the tracks, coupled with rapidly increasing vehicular and rail traffic, raises the probability of vehicles inadvertently sliding unto the crossing, striking or being struck by a train. Adequate protection of the Public will require the installation of 12-inch LED flashing lights with barrier gates and constant warning time circuitry.

Constant warning time circuitry adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

Light emitting diodes (LED) are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Barrier Gates are also a relatively new application for crossing protection in Wisconsin, having been successfully installed, operated and maintained on a pilot basis at two crossings in the

State. The gates represent significant change in the design of crossing protection devices as their design and construction physically prevents entry of passenger vehicles and light duty trucks into a crossing. This feature appears to be particularly appropriate at crossings which have steep approach grades.

Source of funding: The signal materials and installation shall be paid from fiscal year 2005 state and federal OCR safety funds.

Conclusion on the Issue

THE COMMISSIONER CONCLUDES:

1. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with barrier gates and constant warning time circuitry at the crossing of the tracks of Wisconsin Central Ltd. with **Good Hope Road** in the Village of Sussex, Waukesha County.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain 12" LED automatic flashing lights with barrier gates, and constant warning time circuitry with remote monitoring capability, all in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads, at the crossing of its tracks at-grade with **Good Hope Road** in the Village of Sussex, Waukesha County by **December 31, 2005** (Crossing No. 692 253S/CM 107.79).
2. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation. Materials costs for the barrier gate system shall not exceed \$161,000.00 in accordance with the proposal described above.

3. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.
4. That the **Wisconsin Central Ltd.** shall clear brush and trees from its right-of-way for 330' down the tracks in each direction from the **Good Hope Road** crossing by **September 30, 2004.**
5. That the **Village of Sussex** shall be responsible for the cost of such land, materials and labor as may be required to provide for adequate width of roadway at the crossing to accommodate highway lanes and shoulders as well as a center median in which to construct the barrier operating mechanisms or receiver bases.
6. That the **Village of Sussex** shall clear brush and trim trees within its highway right-of-way for 330' down the highway in each direction from the **Good Hope Road** crossing by **September 30, 2004.**
7. That the **Wisconsin Central Ltd.** shall bear no part of the cost of the crossing signals installation, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.
8. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.
9. That jurisdiction is retained.

Dated at Madison, Wisconsin, _____.

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen, Commissioner of Railroads